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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 930363-4145, I.D. 012793B]

Designated Critical Habitat; Northern Right Whale

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS is designating critical habitat for the northern right whale (*Eubalaena glacialis*). The designated habitat includes portions of Cape Cod Bay and Stellwagen Bank, the Great South Channel (each off the coast of Massachusetts), and waters adjacent to the coasts of Georgia and the east coast of Florida. This designation provides notice to Federal agencies and the public that a listed species is dependent on these areas and features for its continued existence and that any Federal action that may affect these areas or features is subject to the consultation requirements of section 7 of the Endangered Species Act (ESA).

EFFECTIVE DATE: July 5, 1994.

ADDRESSES: Requests for copies of this rule should be addressed to the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), 1335 East-West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Michael Payne, Protected Species Management Division, NMFS, 301/713-2322; Charles Oravetz, Southeast Regional Office, NMFS, 813/893-3141; or Doug Beach, Northeast Regional Office, NMFS, 508/281-9254.

SUPPLEMENTARY INFORMATION:

Background

Right whales, *Eubalaena* spp., are the most endangered of the large whale species, brought to extremely low levels by commercial whaling. Right whales were the earliest targets of whaling and, although they have been protected world-wide from commercial whaling by international agreements since 1935, right whale populations still remain extremely depleted. The global population of right whales is comprised of two separate species, one each in both the northern and southern hemisphere, and several stocks or populations within each hemisphere. The majority of right whales occur in the southern hemisphere (the southern right whale, *E. australis*) and are considered a separate species from the right whale in the northern hemisphere (*E. glacialis*).

At least two populations of northern right whales, an eastern and a western population, occur, or have occurred, in the North Atlantic. The eastern North Atlantic population may be nearly extinct. Between 1935-1985, there were only 21 possible sightings in the eastern North Atlantic, totaling 45 individuals (Brown, 1986). Furthermore, Brown (1986) considered only five of these sightings (seven individual whales) to be confirmed. In the western North Atlantic, the known distribution and abundance of right whales indicate a "best available" population estimate of 300-350 individuals. Despite the low abundance and known anthropogenic factors affecting total mortality (Kraus, 1990), the western North Atlantic stock is the largest in the Northern Hemisphere. This population stands to benefit most from recovery actions (NMFS, 1991; Kenney, Winn and Macaulay, 1994).

Like other baleen whales, the western North Atlantic population of right whales (hereafter referred to as the northern right whale) is migratory. The known distribution and migratory pattern has been previously summarized by Kraus (1985); Winn, Price and Sorensen (1986); Gaskin (1987, 1991); and by Kraus et al. (1986). The five primary habitats used by northern right whales during their annual migration, as described by Kenney, Winn and Macaulay (1994), include the following three areas off the eastern coast of the United States: (1) A spring/early summer feeding and nursery area for a majority of the population in the Great South Channel (GSC), (2) a late winter/spring feeding and nursery area for a small portion of the population in Cape Cod Bay (CCB), and (3) a winter calving ground and nursery area in the coastal waters of the southeastern United States (SEUS); and the following two areas located in Canadian waters: (4) a summer/fall feeding and nursery area for some animals, including nearly all mother/calf pairs, in the lower Bay of Fundy; and (5) a summer/fall feeding ground, with almost exclusively mature individuals, on the southern Nova Scotian shelf.

The northern right whale was listed as endangered on June 2, 1970 (35 FR 8495). Section 9 of the ESA prohibits the taking of endangered species, and section 7 requires Federal agencies to ensure that their actions are not likely to jeopardize either threatened and endangered species. For species listed prior to 1978, when Congress required that critical habitat be designated, concurrently with the listing, critical habitat may be designated although such designation is not required. Section 4(f) of the ESA also requires the responsible agency to develop and implement a recovery plan for listed species, unless such a plan would not promote the conservation and recovery of the species. NMFS determined that a recovery plan would promote the conservation of the northern right whale. Accordingly, the Assistant Administrator for Fisheries (AA) appointed a Recovery Team consisting of experts on right whales from the private sector, academia and government. A Recovery Plan for the Northern Right Whale was approved by NMFS in December, 1991 (NMFS, 1991).

NMFS was petitioned by the Right Whale Recovery Team to designate critical habitat for the northern right whale on May 18, 1990. A

Federal Register notice was published on July 12, 1990 (55 FR 28670), requesting information and comments on the petition. Of those agencies, organizations, and private groups that commented, most responded favorably to the designation of the three areas in the U.S. as critical habitat for the northern right whale. The comments received were considered and incorporated as appropriate by NMFS in the proposed rule to designate critical habitat for northern right whales. The proposed rule was published on May 19, 1993 (58 FR 29186), and provided for a 60-day comment period. NMFS also completed an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), to evaluate both the environmental and economic impacts of the proposed critical habitat designation. The EA resulted in a finding of no significant impact for the proposed action.

During the comment period, NMFS received several requests for public hearings on the proposed designation. Public hearings were held in Boston, MA, on August 25, 1993; in Port Canaveral, FL, on August 24, 1993; and in Brunswick, GA, on August 25, 1993 (58 FR 41454, Aug. 4, 1993). The comment period was extended until August 31, 1993, to allow commenters the opportunity to respond to concerns voiced at the public hearings. After consideration of public comments, and based on the best available scientific information, NMFS is designating critical habitat for the northern right whale as described in the proposed rule.

Definition of Critical Habitat

``Critical habitat'', as defined in section 3(5)(A) of the ESA, and the term ``conservation'', as defined in section 3(3) of the ESA, were provided in the preamble to the proposed rule (58 FR 29186, May 19, 1993).

Essential Habitat of the Northern Right Whale

Biological information for the northern right whale can be found in the Recovery Plan (NMFS, 1991), and in recent scientific literature (Winn, Price and Sorensen, 1986; Kenney et al., 1986; Wishner et al., 1988; Mayo and Marx, 1990; Payne et al., 1990; Kraus and Kenney, 1991; Kraus et al., 1993; Kenney, Winn and Macauley, 1994). The physical and biological habitat features of the critical habitat are discussed herein.

Foraging Habitat of the Northern Right Whale

Right whales have been characterized principally as ``skim'' feeders (Kawamura, 1974; Nemoto and Kawamura, 1977). They subsist primarily on dense swarms of calanoid copepods, notably *Calanus finmarchicus* in the North Atlantic (Mitchell, 1975; Watkins and Schevill, 1979; Winn, Price and Sorensen, 1986; Wishner et al., 1988; Mayo and Marx, 1990; Kraus and Kenney, 1991). Northern right whales are also known to prey on other similar sized zooplankton. Two other zooplankton species preyed upon by northern right whales in CCB include *Pseudocalanus minutis* and *Centropages* spp. (Mayo and Marx, 1990). A strong positive correlation between the abundance of right whales in the southern Gulf of Maine and densities of *C. finmarchicus* has been described by Kenney et al. (1986), Wishner et al. (1988), Payne et al. (1990), and Kenney, Winn and Macauley (1994). The two recorded time intervals when right whales were most abundant in the CCB/Stellwagen Bank area (April 1970, reported by Watkins and Schevill, 1982; and during 1986, reported by Payne et al., 1990) were during periods of observed peak densities of copepods.

While the size and density of copepod patches are important to the

feeding energetics of right whales, so are the relative proportions of adult copepods within each patch (Kenney et al., 1986; Wishner et al., 1988). Although the feeding ecology of right whales is likely more complex than previously thought (Mayo and Marx, 1990), dense aggregations of older, caloric-rich copepods seem to be the required characteristics for energetically successful foraging by right whales. If copepods in these caloric-rich, adult developmental stages are not available to northern right whales in sufficient densities, there may be insufficient prey available in the remaining developmental stages (independent of abundance) to provide right whales with the required energy densities (as described by Kenney et al., 1986) to meet the metabolic and reproductive demands of the right whale population in the western North Atlantic (Kenney et al., 1986; Payne et al., 1990).

Foraging Habitat: The overall spatial requirements for right whales are not well defined; however, the distribution pattern observed for northern right whales indicates that four of the five principal habitats occupied by right whales in the western North Atlantic are used for foraging, and possibly reproductive activities: The GSC, CCB, the Bay of Fundy, and the Scotian Shelf. Neither feeding nor courtship behavior has been observed along the SEUS. Scientists believe that subadult and adult baleen whales fast, or feed rarely, during the winter calving period.

Based on observed distribution patterns compared to oceanographic conditions, scientists speculate that the topographic and seasonal oceanographic characteristics of foraging areas are conducive to the dense growth of zooplankton. These high-use areas may comprise the minimal space required for normal foraging behavior that will support the northern right whale population. The Department of Fisheries and Oceans (Canada) has already designated two foraging areas as right whale sanctuaries--one in the Bay of Fundy and another on the Scotian Shelf. The remaining two foraging habitats, the GSC and CCB, are found in the United States and are included as critical habitat for the northern right whale.

Great South Channel: The GSC is a large funnel-shaped bathymetric feature at the southern extreme of the Gulf of Maine between Georges Bank and Cape Cod, MA. The GSC is one of the most used cetacean habitats off the northeastern United States (Kenney and Winn, 1986). The channel is bordered on the west by Cape Cod and Nantucket Shoals, and on the east by Georges Bank. The channel is generally deeper to the north and shallower to the south, where it narrows and rises to the continental shelf edge. To the north, the channel opens into several deepwater basins of the Gulf of Maine. The V-shaped 100-m isobath effectively delineates the steep drop-off from Nantucket Shoals and Georges Bank to the deeper basins. The average depth is about 175 m, with a maximum depth of about 200 m to the north.

The GSC becomes thermally stratified during the spring and summer months. Surface waters typically range from 3 to 17 deg.C between winter and summer. Salinity is stable throughout the year at approximately 32-33 parts per thousand (Hopkins and Garfield, 1979). Much of the bottom is comprised of silty, sandy sediments, with finer sediments occurring in the deeper waters.

The late-winter/early spring mixing of warmer shelf waters with the cold Gulf of Maine water funneled through the channel causes a dramatic increase in faunal productivity in the area. The zooplankton fauna found in these waters are typically dominated by copepods, specifically *C. finmarchicus*, *P. minutus*, *C. typicus*, *C. hamatus*, and *Metridia lucens*. From the middle of winter to early summer, *C. finmarchicus* and *P. minutus* are the dominant species, which together made up between 60 and 90 percent of the samples described by Sherman et al. (1987). In late spring, *C. finmarchicus* alone makes up 60 to 70 percent of the

copepod community. In the second half of the year, both species of Centropages dominate the waters, accounting for about 75 percent of all copepod species sampled.

The GSC right whale distribution was described by Kenney, Winn and Macaulay (1994), and the following, unless otherwise cited, is taken from that manuscript. Right whales occur in the GSC on a strictly seasonal basis--in the spring, with a peak in May. Only in 1986 and 1987 were a small number of right whales present throughout most or all of the summer. This corresponds to the atypical copepod density maxima in the GSC and southern Gulf of Maine described by Wishner et al. (1988) and Payne et al. (1990). The main area of GSC right whale distribution has been in the central basin, generally in waters deeper than 100 m. There is a persistent thermal front, which roughly parallels the V-shaped 100-m isobath typically slightly south of that isobath in 60-70 m of water. The front divides stratified waters with warmer surface temperatures to the north of the front from tidally mixed water with cooler surface temperatures over the shallower area south of the front (Wishner et al., 1988; Brown and Winn, 1989). Right whales occur in the stratified waters north of the front, and Brown and Winn (1989) showed that right whale sightings were non-randomly distributed relative to the front, but were at a median distance from it of about 11 km. Although there are variations between years, the ``typical'' pattern is for the primary right whale aggregation to occur in the central to western portion of the basin. Within any one year, the general area of major aggregation is remarkably stable. A gradual southward shift in the center of distribution occurs as the season progresses.

Single-day abundance estimates for the GSC, uncorrected for animals missed while submerged, ranged up to 179 individuals (Kenney, Winn and Macaulay, 1994). The total number of photographically identified northern right whales is now 319, eliminating those known to have died, but including some that have not been sighted for several years and that may be dead (Kraus et al., 1993). Therefore, it is likely that a significant proportion of the western North Atlantic right whale population uses the GSC as a feeding area each spring, aggregating to exploit exceptionally dense copepod patches. Given that not all of the 300-350 right whales are seen in U.S. shelf waters each season, it is very likely that most, if not all, of the northern right whale population use the GSC within any given season, and that every 2-3 years, the entire population of 300-350 northern right whales in the northwest Atlantic may pass through the GSC.

Cape Cod Bay: The CCB is a large embayment on the U.S. Atlantic Ocean off of the State of Massachusetts that is bounded on three sides by Cape Cod and the Massachusetts coastline from Plymouth, MA, south. To the north, CCB opens to Massachusetts Bay and the Gulf of Maine. CCB has an average depth of about 25 m, and a maximum depth of about 65 m. The deepest area of CCB is in the northern section, bordering Massachusetts Bay.

The general water flow is counter-clockwise, running from the Gulf of Maine south into the western half of CCB, over to eastern CCB, and back into the Gulf of Maine through the channel between the north end of Cape Cod (Race Point) and the southeast end of Stellwagen Bank, a submarine bank that lies just north of Cape Cod. Flow within the bay is driven by density gradients caused by freshwater river run-off from the Gulf of Maine (Franks and Anderson, 1992a, 1992b; Geyer et al., 1992) and by a predominantly westerly wind.

Thermal stratification occurs in the bay during the summer months. Surface water temperatures typically range from 0 to 19 deg.C throughout the year. Salinity is fairly stable at around 31-32 parts per thousand. Much of the bottom is comprised of unconsolidated

sediments, with finer sediments occurring in the deeper waters (Davis, 1984). In shallow areas, or where there is sufficient current, sediments tend to be coarser.

Northern right whales were ``rediscovered'' in the CCB in the early 1950s. Right whales have been seen in Massachusetts waters in most months (Watkins and Schevill, 1982; Schevill, Watkins and Moore, 1986; Winn, Price and Sorensen, 1986; Hamilton and Mayo, 1990). However, most sightings occurred between February and May, with peak abundance in late March (Mayo, 1993). Schevill, Watkins and Moore (1986) reported 764 sightings of right whales between 1955 and 1981 in CCB. More than 70 whales were seen in one day in 1970. Hamilton and Mayo (1990) reported 2,643 sightings of 113 individual right whales in Massachusetts waters, with a concentration in the eastern part of CCB. A number of right whales, including cow-calf pairs, remained in CCB and Massachusetts Bay during the summers of 1986 and 1987. This was attributed to atypically dense concentrations of *C. finmarchicus* in those years, and low abundances of sand lance, *Ammodytes* spp., a planktivorous finfish that also preys on copepods and may be competing with right whales for copepod prey during recent years (Payne et al., 1990).

The late-winter/early spring zooplankton fauna of CCB consists primarily of copepods, represented predominantly by two species, *Acartia clausi* and *A. tonsa*. Samples taken in the daytime indicated greater densities of copepods at greater depths. The copepod *C. finmarchicus* is found throughout inshore CCB waters at densities of 100 individuals per cubic meter from April through June (Mayo and Marx, 1990). However, Mayo and Marx (1990) found that the density of surface zooplankton samples collected in the path of feeding right whales during mid-winter was significantly higher than for the samples taken where whales were absent (median = 3,904 organisms/m³). The threshold value below which feeding by northern right whales is not likely to occur in CCB is approximately 1,000 organisms/m³ (Mayo and Marx, 1990). Although year-to-year variation in the composition of zooplankton was found, feeding right whales were associated with patches of zooplankton that were dominated by *C. finmarchicus*, *P. minutus*, *C. spp.* and by cirripede (barnacle) larvae. These authors suggested that, after arrival in CCB when prey is at a maximum (or at least at a consistently acceptable level), the whales select the densest patches of copepods (Mayo and Marx, 1990).

Calving and Nursery Habitat of Northern Right Whales

Cape Cod Bay: Schevill, Watkins and Moore (1986) reported 21 sightings of small calves in 12 of the 26 years of their CCB study, including two calves that may have been born in CCB. Therefore, the CCB may occasionally serve as a calving area, but it is more recognized for being a nursery habitat for calves that enter into the area after being born most likely in, or near, the SEUS. Mead (1986) identified Massachusetts waters as second only to the SEUS for documented right whale calf sightings. Hamilton and Mayo (1990) observed a total of 30 calves between 1979 and 1987, associated with 21 mothers. Schevill, Watkins and Moore (1986) and Hamilton and Mayo (1990) documented observations of mating behavior and nursing in CCB.

Southeast United States (SEUS): The coastal waters off Georgia and northern Florida (the area described as the SEUS) average about 30 m in depth with a maximum depth of about 60 m. The deepest waters occur along the coast of Florida, just south of Cape Canaveral. Seasonal water temperatures and salinity for this area are higher than in northern waters. This is a transition area separating subtropical from the more temperate southeastern marine communities. Large, cyclic

changes in abundance and dominance of plankton species occur seasonally and annually. Annual variation may be so great that short-term monitoring studies may not be sensitive enough to assess the temporal variability of the plankton community. The recorded preferred food of the northern right whale, *C. finmarchicus*, does not occur in these waters, and the area is not considered a foraging area for northern right whales.

Between 1989-1992, 31 calves were observed within the SEUS, representing 76 percent of the total number of calves ($n = 41$) reported from the North Atlantic during that period (Kraus et al., 1993). The calving season extends from late November through early March with an observed peak in January. The 30' blocks of latitude within the SEUS having the greatest density of adult and juvenile right whales occurred in waters from Brunswick, GA to Jacksonville Beach, FL (Kraus et al., 1993). The presence of females with calves was primarily limited to the coastal waters between 27 deg.30' and 32 deg.00'N latitudes. This is consistent with distributions reported by Kraus and Kenney (1991) using historical sighting data through 1989.

Since 1980, 153 northern right whales have been individually identified from surveys conducted in SEUS waters. This represents 48 percent of the known northern right whale population of 319 whales. During this period, 125 of the right whales observed in the SEUS have also been sexed using criteria described in Kraus et al. (1993). Of the 96 adults observed, 91 were females, one was a male, and the sex of the remaining four was not determined. These 91 females represent 74 percent of all the photo-identified females who have been reproductively active since 1980. The observed frequency of occurrence of females in the SEUS is significantly greater than the expected 1:1 sex ratio characteristic of the overall population. This demonstrates that the population is segregated by sex at this time of the year, and that the SEUS is used predominantly by females, and females with calves, although several juvenile males have also been observed in recent years. Based on the number of calves and females with calves in the SEUS since 1980, Kraus et al. (1993) consider the SEUS as the primary calving area for the population.

Environmental Correlates to Right Whale Distribution in the SEUS: Environmental features that have been correlated with the distribution of northern right whales throughout the SEUS include water depth, water temperature, and the distribution of right whale cow/calf pairs and the distance from shore to the 40-m isobath (Kraus et al., 1993).

The average water depth at sighting was 12.6 m ($SD = 7.1$). This shallow water preference is consistent with that recorded for southern right whales with calves (Payne, 1986). Also, the significant correlation between the distribution of northern right whales and the distance from shore of the 40-m isobath (referred to as the inner (0-20-m) and middle (20-40-m) shelf by Atkinson and Menzel, 1985) indicates that right whales in the SEUS are using the nearshore edge of the widest part of the broad shallow-water shelf characteristic of the Georgia-Florida Bight. The inner shelf is dominated by tidal currents, river inflow, and interaction with the coastal sounds. The middle shelf, which is dominated by winds, has less interaction with the coastal environment but is influenced on the outer margins by the Gulf Stream (Atkinson and Menzel, 1985). This use of the inner and nearshore-middle shelf area by right whales may provide maximum protection from the wave action that occurs over the outer margins of the shelf. Therefore, the occurrence of cow/calf pairs in coastal waters of the SEUS may be due, at least in part, to the bathymetry that affords protection from large waves and rough water. The strong winds and offshore wave activity in the winter SEUS is minimized nearshore by the relatively shallow, very long underwater shelf (extending almost

105 km offshore) (Kraus et al, 1993).

The average temperature of 30' blocks of latitude where right whales have occurred is significantly cooler than those blocks of latitude within the SEUS where right whales were not observed (14.5 deg.C vs. 18.5 deg.C) (Kraus et al., 1993). The inner shelf is not affected by the Gulf Stream during the period when right whales are present; therefore sea-surface temperature decreases as one moves from the Gulf Stream towards shore. It is difficult to separate the effects of temperature from depth and proximity to shore, but sighting data indicate that northern right whales clearly prefer a band of relatively cool water (10-13 deg.C) within the SEUS. This band is affected by the nearshore processes, including cooler freshwater runoff and discharge, as described in several chapters of Atkinson, Menzel and Bush (1985). Although little information is available on right whale physiology, it is hypothesized that the metabolic rate of the whale is affected by water temperature (Kraus and Kenney, 1991). The cooler, coastal water may provide right whales with the optimum thermal balance for calving by cooling the female at a time when offshore, Gulf stream affected warmer waters may be too warm for a female with maximum fatty layers prior to parturition and nursing. At the same time, the coastal waters may be warm enough not to cause problems for a neonate, considering that the insulating layer of a neonate for the first few weeks is minimal, as compared to the adult.

Courtship activities have been observed throughout most of the range of the northern right whale, except within the SEUS (Kraus, 1985).

Activities That May Affect Essential Habitat

Northern right whales are no longer observed in certain areas where they once were found, such as Delaware Bay, New York Bight and Long Island Sound (NMFS, 1991). The absence of right whale sightings in these areas may be due to several factors, including: Increased human activities, habitat degradation, insufficient quantities of prey due to habitat or natural alterations in the physical environment, extinction of an independent breeding group that used these areas or contraction of the species' range as the population has decreased (NMFS, 1991).

There exists a wide range of human activities that may impact the designated critical habitat for northern right whales (NMFS, 1991, 1992). Resource uses in the critical habitat areas are currently, and have been historically, dominated by vessel traffic and fisheries. Vessel activities can change whale behavior, disrupt feeding practices, disturb courtship rituals, disperse up food sources and injure or kill whales through collisions. Thirty-two percent of the known strandings of northern right whales since 1970 have been caused by human activities (Kraus, 1990; NMFS, 1992).

Vessels that operate in the areas being designated as critical habitat include recreational and commercial fishing vessels, commercial transport vessels, passenger vessels, recreational boats, whale-watching boats, research vessels and military vessels (e.g., surface ships and submarines). Helicopters and low-altitude aircraft also fly over the critical habitat. Results of human activities that occur within or near the designated critical habitat for northern right whales, and that may disrupt the essential life functions that occur there, include, but are not limited to:

1. Mortality due to collisions with large vessels: Seven percent of northern right whales identified have propeller scars from a large vessel (NMFS, 1992);
2. Entanglement and mortality due to commercial fishing activities: More than one-half of all cataloged animals have scars indicative of

entanglements with fishing gear, resulting in scars, injuries, and death. Fishing nets and associated ropes may become entangled around a flipper, at the gape of the mouth, or around the tail (Kraus, 1985, 1990). Gill nets are believed to be the primary cause of scars and injuries related to fishing gear, although whales have also become entangled in drift nets and lines from lobster pots, seines and fish weirs (Kraus, 1985). Fishing practices and locations may need to be managed more closely when the fishing season overlaps with the presence of right whales.

3. Possible habitat degradation through pollution, sea bed mining, and oil and gas exploration: Exploration and development for oil, gas, phosphates, sand, gravel, and other materials on the outer continental shelf may impact northern right whale habitat through the discharge of pollutants (such as oil, drilling muds and suspended solids); noise from seismic testing, drilling and support activity; and disturbance of the environment through vessel traffic and mining rig activity. If these types of activities are proposed, their timing and location may also require special management considerations, including the establishment and maintenance of buffer zones.

4. Pollutants may also affect phytoplankton and zooplankton populations in a way that decreases the density and abundance of specific zooplankton patches on which northern right whales feed. In addition, pollution may affect the feeding patterns and habitat use of other components of the marine ecosystem, which in turn could impact food and habitat availability for the northern right whale. Pollutants may also have direct toxic effects on the whale. Monitoring of known and potential pollution and discharge sources in this essential habitat may be necessary to insure that these sources are not affecting prey species abundance or composition, or the northern right whale's ability to gain maximum benefit from use of the area.

Turbulence associated with vessel traffic may also indirectly affect northern right whales by breaking up the dense surface zooplankton patches in certain whale feeding areas. Special vessel traffic management or restrictions may be necessary in certain areas when northern right whales are present.

5. Possible harassment due to whale-watching and other vessel activities; and

6. Possible harassment due to research activities (on permitted sites and during specified times throughout the year).

The effect of any of these activities on individual whales or on their habitat could have consequences that may impede the recovery of the northern right whale population. Therefore, special management considerations may be required to protect these areas and promote the recovery of the northern right whale. The following are some, but not necessarily all, of those activities that occur in each of the designated critical habitat areas.

Cape Cod Bay: In CCB, vessel traffic associated with the Cape Cod Canal, the Boston Harbor traffic lanes, dredging and disposal traffic, recreational boating, commercial fishing and whale-watching activities comprise the majority of the vessel activity in the immediate area. Of these, recreational boating, commercial fishing and whale-watching contribute greatly to the level of activity in the critical habitat.

Recreational boating begins with the onset of warmer months, particularly in June. Commercial fishing vessels and gear are dominated by the lobster industry, which does not typically begin its season until the middle of June. Whale-watching boats, ferries and other vessels increase activity in the area with the onset of warmer weather and the tourist season, which typically begins in May or June and ends no later than November.

Discharges from municipal, industrial and non-point sources,

dredging activities, dredge spoil disposal and sewage disposal may degrade essential habitat in Massachusetts Bay/northern CCB. The cumulative effects to baleen whales (including right whales) by these activities may affect the northern right whale in Massachusetts Bay/northern CCB.

Great South Channel: In the GSC, vessel traffic and fisheries constitute the majority of activities within the critical habitat area. However, in this area, these activities are not contingent on warm weather. Shipping vessel traffic lanes for Boston Harbor are used throughout the year to import and export metal, salt, fuel and a variety of other products. Similarly, the commercially important fishing grounds on Georges Bank involve year-round vessel traffic from the mainland through right whale essential habitat to the fishing grounds. The bottom-trawl is the most dominant type of fishing gear used in this area. It is not known whether the bottom-trawl, or any other type of fishing gear, has an impact on the whales' habitat. Mesh sizes used in this area do not pose an immediate threat to the whales' planktonic food supply.

Southeast United States: Vessel traffic and fisheries are the major activities in the SEUS calving grounds. Major commercial shipping and military ports operate throughout the winter/calving area. The majority of commercial fishing vessels that use the inshore waters to harvest shrimp and other commercially important species use these and other neighboring ports as well. Recreational boating traffic is also fairly extensive.

Expected Impacts of Designating Critical Habitat

A critical habitat designation directly affects only those actions authorized, funded, or carried out by Federal agencies. Federal agencies that may be affected by critical habitat designation of these areas include, but are not necessarily limited to, the U.S. Coast Guard, Environmental Protection Agency, U.S. Army Corps of Engineers, NMFS (including the New England Fishery Management Council (NEFMC) and South Atlantic Fishery Management Council), National Ocean Service, Office of Coastal Zone Management, Minerals Management Service and the U.S. Navy. For a discussion of the expected impacts and significance of critical habitat designation, see ``Significance of Designating Critical Habitat'' in the proposed rule (58 FR 29187, May 19, 1993).

Consideration of Economic and Other Factors

NMFS prepared an EA on its proposed designation of critical habitat, based on the best available information, that described the environmental and economic impacts of alternative critical habitat designations. The economic impacts considered in this analysis were only those incremental economic impacts specifically resulting from a critical habitat designation, above the economic and other impacts attributable to the listing of the species, or resulting from authorities other than the ESA. Listing a species under the ESA provides significant protection to the species' habitat through the no-jeopardy standard of section 7 and, to a lesser extent, the prohibition against taking of section 9, both of which requires an analysis of harm to the species that can include impacts to habitat of the species. Therefore, the additional direct economic and other impacts resulting from the critical habitat designation are minimal. In general, the designation of critical habitat reinforces the substantive protection resulting from the listing itself.

Designation of critical habitat in these areas may result in an increase in administrative time and cost to Federal agencies that

conduct, authorize or fund projects in the designated areas. However, these agencies are currently required to address habitat alteration issues in section 7 consultations, and as a result, any increase in administrative time or cost is expected to be minimal.

Designated Critical Habitat; Essential Features

NMFS, by this final rule, designates areas essential for the reproduction, rest and refuge, health, continued survival, conservation and recovery of the northern right whale population. The following areas are designated as critical habitat:

Great South Channel: The area designated as critical habitat in these waters is bounded by the following coordinates: 41 deg.40'N/69 deg.45'W; 41 deg.00'N/69 deg.05'W; 41 deg.38'N/68 deg.13'W; 42 deg.10'N/68 deg.31'W.

Cape Cod Bay: The area designated as critical habitat in these waters is bounded by the following coordinates: 42 deg.04.8'N/70 deg.10.0'W; 42 deg.12'N/70 deg.15'W; 42 deg.12'N/70 deg.30'W; 41 deg.46.8'N/70 deg.30'W; and on the south and east, by the interior shoreline of Cape Cod, MA.

Southeastern United States: The area designated as critical habitat in these waters encompasses waters between 31 deg.15'N (approximately located at the mouth of the Altamaha River, GA) and 30 deg.15'N (approximately Jacksonville, FL) from the shoreline out to 15 nautical miles offshore; and the waters between 30 deg.15'N and 28 deg.00'N (approximately Sebastian Inlet, FL) from the shoreline out to 5 nautical miles.

Modifications to this critical habitat designation may be necessary in the future as additional information becomes available.

References

Most references used in this final designation can be found in the Final Recovery Plan for Right Whales (NMFS, 1991), and in the EA. Additional references found in the preamble to this rule are available upon request (see ADDRESSES).

Comments and Responses

NMFS solicited information, comments and recommendations from concerned government agencies, the scientific community, industry and the general public (58 FR 29186, May 19, 1993). NMFS considered and incorporated, as appropriate, all comments received during the comment period (ending on August 31, 1993) and all comments received during public hearings on the proposed rule prior to making this final designation.

During the comment period and at the public hearings, NMFS received a total of 35 sets of comments from regional and national environmental organizations; county, state and Federal agencies; and associations representing regional commercial and sport fisheries. NMFS also received more than 50 written and oral presentations (at public hearings) regarding the proposed designation of critical habitat for northern right whales.

Comments received by NMFS generally fell into one of the following categories: (1) Those who were in favor of the designation as it was proposed; (2) those who were in favor of the proposed designation, but recommended that additional regulatory actions be taken at the time of designation to protect northern right whales; (3) those who were in favor of designating critical habitat for northern right whales, but recommended expanding the boundaries of the critical habitat; (4) those

who were not in favor of the designation because it was not necessary, given the protective measures for right whales that are being implemented through section 7 of the ESA; and (5) those who were not in favor of the critical habitat designation because it may lead to further restrictions on a specified activity.

Most comments received by NMFS from private individuals, environmental organizations, and state agencies supported the critical habitat designation for northern right whales. Several commenters suggested that the proposed rule lacked clear conservation measures to ensure the recovery of the northern right whale. Many of the recommendations were duplicative of those of other commenters; therefore, individual comments were combined and addressed together below, unless otherwise specified.

Comment 1: One commenter recommended that NMFS designate a Northern Right Whale Recovery Plan Implementation Team for the coastal calving grounds off Florida and Georgia. The commenter further suggested representative agencies and organizations that might participate on this team.

Response: On August 26, 1993, NMFS convened a meeting to discuss the monitoring program that needed to be in place to protect northern right whales on their winter ground, prior to their winter arrival. During this meeting, the Southeastern U.S. Right Whale Recovery Plan Implementation Team was formed. The team consists of representatives from the Georgia Department of Natural Resources (Chairman); Florida Department of Environmental Protection; NMFS/Southeast Fisheries Center and Southeast Regional Office; U.S. Navy, Naval Air Station, Jacksonville, FL; U.S. Navy, Submarine Group, Kings Bay, GA; Georgia Ports Authority; Canaveral Port Authority; Glynn County Commission, Glynn County, GA; University of Georgia; U.S. Army Corps of Engineers (ACOE), South Atlantic Division; U.S. Environmental Protection Agency (EPA); Port of Fernandina, Fernandina, FL; and the U.S. Coast Guard.

NMFS is also coordinating the development of a Right Whale Recovery Plan Implementation Team for the Northeastern United States. Recovery Plan implementation for the northern right whale has been ongoing at some level within NMFS, Northeast Region (NER), since December 1990, and has involved agency staff and scientific experts in the area. The most recent Massachusetts Water Resources Authority outfall Biological Opinion (issued September 8, 1993), and associated conservation recommendations, are part of the recommendations and programs that have been instituted in the NER that address Right Whale Recovery Plan tasks. The Northeast Implementation Team will address the possible cumulative impacts to right whales from all activities in Massachusetts Bay.

Comment 2: Several organizations recommended that NMFS implement an early warning system, consisting of daily surveys (from December 1 through March 31) of the known wintering grounds. Several organizations also recommended that monitoring be conducted along the migratory route of this species.

Response: ``Early warning systems'' for right whales in the southeast United States were first developed through ESA section 7 consultations between NMFS and ACOE, Jacksonville District, as a result of dredging operations at the Navy's submarine channel at Kings Bay, GA; the Port of Fernandina, FL; the Port of Jacksonville, FL; the Naval facilities at Mayport, FL; a navigation channel at St. Augustine, FL; and numerous beach disposal projects using offshore disposal sites throughout this area. Measures to protect right whales have included daily aerial surveys at the time that the dredges are in operation during the calving season. If a right whale is seen within a 16-kilometer (k) radius of dredge and disposal areas, dredges and support vessels are required to carry an observer during daylight hours and to

reduce speeds at night to reduce the likelihood of a collision with a whale. However, these precautions were only in place while the dredging operations were being conducted, not throughout the entire winter calving period. Therefore there were gaps in the aerial survey coverage, and thus in protective measures for the whales.

In December 1993, the U.S. Navy and the U.S. Coast Guard provided funding to conduct aerial surveys during the remainder of the time that the whales were in the calving area; the area of concern from the Savannah River south to approximately Jacksonville, FL, was surveyed through March 1994. The ACOE will continue to provide coverage during those periods when hopper dredges are active. Therefore, the whale sightings are passed on to appropriate agencies if a survey finds whales in or near a navigational channel, vessels are asked to proceed at minimum safe operational speeds and communicate locations of the whale so other vessels can avoid them. This procedure will continually be reviewed and revised through efforts of the Southeast Implementation Team. NMFS intends to continue cooperative efforts with the U.S. Navy, U.S. Coast Guard, the ACOE, and the implementation team to conduct daily aerial surveys throughout the calving season and to operate the early warning system to reduce the likelihood of ship strikes.

It is unlikely that right whales can be monitored throughout their range for the purpose of protecting them from ship strikes. NMFS is developing a research program that may include satellite tracking of tagged northern right whales to determine those areas (winter and summer) where right whales occur, but which are unknown at this time.

Comment 3: The following comments were made by several commenters. They all address additional activities that the commenters felt should be developed to protect right whales, or activities that should be prohibited, restricted or modified, primarily in the SEUS, to protect the whales further. These comments are addressed together.

a. Many commenters indicated that restrictions or modifications of shipping lanes and shipping practices need to be made at the time of designation. The suggested modifications or changes included the seasonal relocation of shipping lanes, a requirement that vessels entering or leaving ports adjacent to the right whale winter grounds use direct routes (perpendicular to the shoreline at the port entrance) from December 1 through March 31, restriction of shipping and vessel speeds to allow whales to avoid oncoming ships or allow ships to avoid hitting whales, and a requirement of dedicated onboard observers to maintain watch so that vessel collisions with right whales are avoided when ships are transiting through right whale wintering habitats during months when the whales occupy these habitats.

b. Several commenters recommended the development of education programs for shipping and public interests. Others suggested that NMFS provide to the shipping companies illustrated instructions (in many languages) on the importance of protecting right whales in these waters, and on safe vessel operation in the winter calving areas. They further suggested that these instructions be posted for the crews of all ships operating in U.S. waters, and that these safety measures should be enforced. It was suggested that the U.S. Coast Guard should include whale safety in its small boating course, and in required courses for commercial captains and boat operators.

c. Several commenters suggested that NMFS should define right whale critical habitat boundaries on NOAA navigational charts, and the notice of the designation and occurrence of whales need to be included seasonally in the Notice to Mariners and other publications, alerting shipping interests to the potential presence of right whales in the area at certain times.

d. Several commenters recommended that NMFS ban dredging and seabed mining in the right whale calving grounds and feeding grounds, and

along the entire migratory route. Many comments supported restrictions on dredging, if necessary, to protect right whales; gas and oil exploration and the dumping of contaminated waste within the calving areas described by the critical habitat boundaries; dumping of contaminated dredge spoils and industrial waste; and the construction of submerged or emergent structures within known right whale habitats.

e. Several commenters suggested that the discharge of pollutants at the mouths of rivers that empty into the calving grounds should be monitored for possible effects on the habitat.

Response: Regarding comments 3a.-3c., the Southeastern U.S. Right Whale Recovery Plan Implementation Team (see Comment 1) formed committees to examine many of the issues discussed in the comments. Committees that were formed cover the following topics: Education/Awareness; Early Warning Surveys/Communication; Funding of Surveys; Research; and Relocation of Ocean Disposal Sites. A second meeting of the Implementation Team occurred on December 14, 1993; the following updates from each of the committees are summarized from that meeting.

Education/Awareness Committee: The Canaveral Port Authority developed an endangered species pamphlet covering whales, manatees and turtles, which is being distributed regionally. As a group, the Port Authorities developed a series of posters describing the time right whales are in their waters, a phone number to contact if a whale is seen, and mention of right whale habitat. This poster is being distributed by the harbor pilots when they board a vessel for navigation.

A standard brochure on right whales in the SEUS has been developed with input from the Georgia DNR, Florida DEP, New England Aquarium and others. The brochure is designed for boaters (commercial and public), but is also to be given to ship masters by harbor pilots. The Port Authorities, U.S. Coast Guard, U.S. Navy, Georgia DNR and Florida DEP can use this brochure to increase public awareness and education. Financial support for this brochure comes from the participating agencies.

The Georgia DNR and U.S. Coast Guard developed a local Notice to Mariners about right whale calving grounds. This notice is broadcast four times daily by the U.S. Coast Guard on VHF. Broadcasts ran from December 6, 1993, through March 31, 1994. A slightly longer version is published in the local Weekly Notice to Mariners. This notice may also be published daily, along with the tides and weather, in regional newspapers. The Annual Notice to Mariners also has information on this subject.

Several press releases were issued beginning when the first right whales were sighted on December 4, 1993. A regional press release was also issued describing the implementation team, members, persons to contact if a whale is seen and other information on the need for protection of right whales in the SEUS.

The University of Georgia is surveying local groups to ensure that there is no duplication in the development of educational materials on right whales, and to provide a network to combine and coordinate efforts.

The Savannah Area Chamber of Commerce suggested that treating a sighted right whale as though it were another ship (slowing down, changing course and anchoring to avoid collisions with right whales) should be formalized for all ports in the southeast (i.e., treating right whales as vessels under the nautical rules of the road). They further stated that injury to, and interference with, right whales can best be avoided by continuing the education of ship's captains, and through ongoing cooperation between the port, its pilots and the Georgia DNR.

Early Warning and Communication Committee: An early warning network

has been developed with aerial surveys at the core of the network (see Comment 2). A communication flow chart has been developed to illustrate how information regarding whale sightings should be channeled between the appropriate agencies/groups. This is currently considered the best communication scheme for relaying right whale sightings from aircraft to land-based stations, and back to surface vessels. This communication network is essential to the early warning system and alerts mariners to the presence of right whales in the SEUS. Information disseminated by this system is updated daily as whales are located during the aerial surveys.

Regarding Comment 3d., many of the suggested activities may be authorized, funded or conducted by Federal agencies. The responsible Federal agency active within the range of the northern right whales is required to consult with NMFS regarding its projects and activities under section 7 of the ESA. If the activity is found likely to jeopardize the continued existence of the species, directly or through habitat degradation, reasonable and prudent alternatives would be offered that could include restrictions. Even if the activity is not likely to jeopardize the continued existence of the species, NMFS is required to provide an incidental take statement that identifies the impact of any incidental taking of northern right whales by the action agency, and specifies reasonable and prudent measures, and terms and conditions that must be complied with, to minimize such takings. These measures may include restrictions upon the activity. In addition, private entities are prohibited from taking an endangered species pursuant to section 9 of the ESA, which may include harm to the species caused by habitat degradation. In this regard, such activities are already prohibited as a result of listing.

Regarding Comment 3e., NMFS agrees that discharge of pollutants at the mouths of rivers that empty into the calving grounds should be monitored for possible effects on the habitat. A designation of critical habitat may assist Federal agencies in evaluating the potential environmental impacts of their activities on northern right whales and their critical habitat. The designation may also help focus state and private conservation and management efforts in those areas.

Comment 4: Two commenters recommended that a ``distance buffer'' be established around northern right whales. One recommended that a minimum approach distance of 100m to 300m should be established for all vessels around right whales.

The second commenter recommended that NMFS establish around every northern right whale, in any area designated as critical habitat, a 500m radius ``protection zone,'' and prohibit any vessel or person from entering or knowingly remaining within this zone. The commenter further suggested that such a buffer zone is consistent with similar rules already adopted by NMFS and cited as examples the minimum distance rule for humpback whales (*Megaptera novaeangliae*) in Hawaii (50 CFR 222.31) and the 5.5 k buffer zone established around Steller sea lion (*Eumetopias jubatus*) rookeries and major haulouts in Alaska (50 CFR 226.12). The commenter continued that such protection zones for the area designated in Cape Cod Bay and Stellwagen Bank would be consistent with existing Massachusetts regulations (322 CMR 12.00 et seq.), which require that no one approach or remain within 500m of a right whale in state waters.

Response: In both cases, the purpose of the suggested buffer zones would be to ensure that northern right whales are undisturbed as much as possible throughout their range, and to keep vessels far enough away so that there is no danger of a collision between whales and vessels. Critical habitat designations reflect specific determinate geographical areas containing physical or biological features essential to the conservation of the species. While NMFS recognizes that the area around

each whale is important, it is not appropriately the subject of a critical habitat designation. Rather, such buffer zones should be established through separate rulemaking, similar to the special prohibitions for humpback whales in Hawaii.

Comment 5: One commenter suggested that NMFS implement research and monitoring programs focused on: (1) Behavioral changes (of northern right whales) associated with the possible impacts of vessel traffic, noise and whalewatching; or (2) the effects of dredging activities and their associated vessel traffic, siltation and noise in the southeastern United States through continued observation of dredge activity and aerial surveys of right whales in and adjacent to buffer zones around dredging operations; (3) the impact of pollution on phytoplankton and zooplankton abundance--specifically the impact of the Boston Harbor effluent outfall; and (4) the effects of whalewatching activities on the northern right whale. The commenter recommended that, if necessary, NMFS promulgate regulations to mitigate the effects of these activities.

Response: In addition to the monitoring program implemented by the Southeast Implementation Team, NMFS is developing a 3-5 year research plan that will focus on research needs identified as priorities in the Northern Right Whale Recovery Plan. The current research program is the result of several meetings that occurred on April 14-15, 1992, in Silver Spring, MD; June 18, 1993, in Brunswick, GA; and July 16, 1993, in Silver Spring. These meetings established the following research priorities:

- a. To determine the wintering location(s) of most northern right whales in the northwest Atlantic through the deployment of satellite tags on selected female right whale;

- b. to determine daily movements within the wintering/calving area. Tagging with VHF tags in the SEUS could determine the daily movements of these animals. This information could be useful to develop a long-term monitoring program to reduce ship strikes in the SEUS;

- c. to determine the unknown location of a third summering area. There are three matrilineal stocks of northern right whales recognized. One of the stocks does not visit the Bay of Fundy, but is seen in the GSC and CCB during spring, and in the SEUS in winter. Satellite tracking a tagged female from the third matriline (these have already been determined from mtDNA analyses and photoidentification) in the GSC or CCB in the spring might lead to the location of the other summer location of northern right whales in the North Atlantic.

- d. to identify ``bottlenecks'' in the rate of recovery. The reasons for the northern right whale's low reproductive rate relative to southern hemisphere right whales are unknown. One theory is that there is too much inbreeding as a result of the extremely depleted population. The extent of inbreeding can be determined from genetic/molecular identification through mtDNA biopsy sampling and sexing using molecular techniques; and

- e. to determine the best location and methods to monitor recovery of this population.

NMFS is not considering broad-based whalewatching regulations at this time, but may consider minimum approach distances specific to northern right whales as part of the recovery planning process (see Response to Comment 3).

Comment 6: One commenter stated that collisions with ships and entanglement in fishing gear may be rare from the perspective of total fishing activity and vessel traffic in the various areas. However, at least two right whales were struck and killed in the past 3 years. That means that about 2 percent (a much higher rate for calves) of the right whales known to occur in the area since late 1989 have been killed by a collision with a vessel. This percentage may underestimate the actual

percentage struck during the period because many whales, including calves, have been seen with propeller scars. In the view of the commenter, this information demonstrates a significant risk from the perspective of right whales in this area, especially since the threat is concentrated on the reproductive core of the population and the calves, essential for population recovery.

The commenter recommended that NMFS expand the proposed critical habitat designation to include conservation measures that would reduce the likelihood of right whales being struck by vessels or becoming entangled in fishing gear. The commenter continued that the designation of critical habitat will serve as a warning to those who operate ships in these areas that steps must be taken to reduce the risk of collision with right whales. While finding the steps already taken by harbor pilots, ports authorities, the U.S. Navy, the U.S. Coast Guard, ACOE and others to be encouraging, the commenter believed that more needs to be done.

Response: NMFS recognizes that the loss of each northern right whale has a measurable impact on this population. The first priority of the Southeast Implementation Team was to develop a program to reduce or eliminate ship strikes throughout the whales' wintering area.

Also, the New England Fishery Management Council (NEFMC) has restricted all commercial fishing in Gulf of Maine Groundfish Area I, which roughly covers the GSC, because of the importance of the area for haddock spawning from February 1 to May 31, since 1986. The haddock no longer spawn in that area, but NMFS and the NEFMC have recommended leaving the closure in place for all gillnet gear to protect the northern right whale, and other whale species that use that area in the spring.

NMFS will continue to focus recovery/management efforts on ways to reduce human-induced mortality as a result of ship strikes and entanglement.

Comment 7: One commenter stated that the continued availability of these areas for use by northern right whales is critical to the survival of the species. The commenter further stated that under the authority of the Massachusetts Wetlands Protection Act, Massachusetts has already designated the portion of CCB critical habitat that occurs in Massachusetts waters as ``Estimated Habitat'' for a State-listed wetland wildlife species. Estimated habitat, under the Code of Massachusetts Regulations (CMR), 310 CMR 10.37, is defined as the estimated geographical extent of the habitats of State-listed species for which an occurrence within the last 25 years has been accepted by the Massachusetts Natural Heritage and Endangered Species Program and incorporated into its official database.

The commenter also stated that regulations have already been promulgated by Massachusetts law to prohibit vessels from approaching within 500m of a right whale in State waters. Fishery measures that reduce the risk of entanglements of marine mammals with fixed gear such as lobster gear and gillnets have also been adopted in Massachusetts. There are moratoria on gillnet and lobster licenses, a limit on the number of lobster pots per fisherman and limits on the length of lobster pot trawls and gillnets. Further restrictions on gillnets, some to complement what the NEFMC is considering to reduce by-catch of harbor porpoise, *Phocoena phocoena*, are being considered.

The commenter believed, however, that a designation of critical habitat at the Federal level would extend comprehensive, interjurisdictional protection to the right whale, a correct approach to conserving the species. The commenter further stated that since, the proposed rule said ``fishing practices and locations may require special management considerations when the timing of the fishing season and the presence of the northern right whale overlap,'' NMFS should

work closely with Massachusetts and the NEFMC to assess the need for, and nature of, special management considerations.

Response: NMFS recognizes and appreciates the efforts of the Commonwealth of Massachusetts to protect the northern right whale. NMFS is establishing a Northeast Implementation Team for the Recovery Plan (see Response to Comment 5). It is the intent of NMFS to work closely with these teams to determine for, and effectiveness of, special management measures.

Comment 8: One Federal agency supported the proposed critical habitat designation for the northern right whale, but was concerned that NMFS would be the Federal agency listed as having management responsibilities within the boundaries of Cape Cod National Seashore.

Response: Designation of critical habitat does not create management responsibilities for NMFS, nor does it give NMFS primary jurisdiction over Federal lands included in the critical habitat designation. While a Federal agency may undertake an activity that may affect either the listed species or critical habitat, and may be required to consult with NMFS pursuant to section 7, it is the action agency that decides whether to initiate consultation. Likewise, the action agency determines whether and in what manner to proceed with the action in light of its section 7 obligations and NMFS' biological opinion (See 50 CFR 402.15). NMFS' role is advisory in nature.

For example, while NMFS has responsibility over this listed species, the National Park Service (NPS) at Cape Cod National Seashore has major responsibilities for the long-term preservation of Cape Cod's natural resources, including this federally listed endangered species. As such, the NPS at Cape Cod National Seashore has management responsibilities within the proposed area of critical habitat that overlaps with the legislative boundary of the Cape Cod National Seashore. NMFS believes that the NPS and NMFS can work together on issues pertaining to the northern right whale.

Comment 9: One commenter suggested that two of the proposed critical habitat areas violate the prohibition on habitat designation outside the jurisdiction of the United States. The proposed critical habitat designation in the GSC and portions of the SEUS exceed the 12 nautical mile territorial sea recognized by the United States.

Response: The regulations state that ``critical habitat shall not be designated within foreign countries or in other areas outside of the United States jurisdiction'' (50 CFR 424.12(h)). The critical habitat designation falls within the 200 mile exclusive economic zone of the United States, and therefore is not outside of U.S. jurisdiction. Furthermore, critical habitat designation may impact the activities of Federal agencies, which are defined as ``all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas'' (50 CFR 402.02).

Comment 10: Several commenters suggested that the northern boundary of the critical habitat, as recommended by the Recovery Team and proposed by NMFS (58 FR 29186, May 19, 1993), be extended further northward to 32 deg. N latitude, approximately the mouth of the Savannah River. Based on data examined since the Recovery Team reviewed and recommended the critical habitat boundaries that were proposed in the critical habitat designation, the commenter stated that sightings corrected for effort (i.e., the number of right whales counted per survey mile since 1984) indicate that the number of right whales per mile of transect off St. Catherines Island, GA, was comparable to the number observed off Melbourne and Daytona Beach, FL, and greater than that off St. Augustine, FL, areas within the proposed critical habitat.

Several other commenters requested that no extension of the critical habitat include the mouth of the Savannah River be

incorporated into a final designation until verified information on the presence of the right whale is publicly provided and a public hearing is held in Savannah, GA, so that the public can have an opportunity to comment. They further urged that any boundary modification be justified on firm scientific grounds, showing significant benefits to right whale recovery.

Response: NMFS believes that the most important winter/calving areas known are within the boundaries identified as critical habitat in the proposed rule. The greatest number and highest densities of right whales have been observed in the Cape Canaveral region, with the second highest number occurring at the Georgia-Florida border. It is clear, however, that northern right whales occur outside this area, including near the mouth of the Savannah River, during the winter calving period and during their late-winter/spring migration northward.

The monitoring conducted around the mouth of the Savannah River during 1992/1993, and the near-daily monitoring conducted during the winter of 1993/1994 from Savannah south throughout the SEUS to approximately Jacksonville, FL, can be used to examine this issue. In these 2 years of monitoring near the mouth of the Savannah River (total approximately 90 days, 20 in 1992/1993 and approximately 70 thus far in 1993/1994) only four right whales have been sighted. The first sighting, on December 12, 1993, was of three whales moving south. These whales were resighted the following day near Brunswick, GA. The second and third sightings were also followed by resightings off Brunswick. In these cases, the time between resightings was only a few days, indicating that the whales were not remaining near the Savannah River but traveling through the area toward the core of the sighting distribution. Based on these data, NMFS sees no need to include the area as critical habitat at this time. NMFS recognizes that the sighting data is based on only 2 years of information, and that distributions between years can vary dramatically. NMFS will continually examine sighting data and may modify critical habitat boundaries in the future if warranted by additional sighting information.

Comment 11: One commenter suggested that there is a lack of data offered by NMFS supporting the presence of a substantial right whale population off the Cape Canaveral Florida coast (south of False Cape). The commenter cited information in the Recovery Plan for the Northern Right Whale, which indicates that only four sightings within the 5nm proposed habitat have been recorded south of the False Cape area prior to 1989, and questioned whether this is sufficient data on which to base a designation.

Response: The lack of sightings at the southern end of the designated SEUS area is explained, at least in part, by low sampling effort in that area. Sightings corrected for effort indicate that the area around Cape Canaveral may be used by right whales to a greater extent than presented by Kraus and Kenney (1991) and discussed in the Recovery Plan. The data do not support removal of the area from consideration.

Given the need to monitor and manage activities that might impact northern right whales in the area of Cape Canaveral, NMFS believes that it is appropriate to designate this area as critical habitat. The seasonal use, and extent of use, of any area will be considered during the ESA section 7 process on a case-by-case basis, but at present the area in question represents the southern limit to the only known calving area for this species, and is therefore considered critical.

Comment 12: Another Federal agency supported the proposed designation and submitted comments from the particular perspectives of the Gray's Reef National Marine Sanctuary (GRNMS) and the recently designated Stellwagen Bank National Marine Sanctuary (SBNMS).

The GRNMS lies to the north and east of the proposed critical habitat boundary in coastal Georgia; and the commenter recommended that the boundary of the proposed critical habitat be extended northward and seaward to include GRNMS. The commenter stated that Grays Reef is particularly vital to the critical habitat designation because the waters off Georgia and northern Florida serve as calving grounds for this species. The commenter also stated that personnel at GRNMS could provide additional resources for observing and monitoring these whales as part of the Sanctuary's routine operations, as well as provide substantial support to the education and outreach objectives listed in the Northern Right Whale Recovery Plan.

The commenter continued by stating that the recently designated SBNMS overlaps slightly with the proposed critical habitat area (at the northern end of CCB). The commenter felt that the proposed designation, in conjunction with the implementation of the SBNMS, would provide additional opportunities for coordinated efforts to enhance the potential for recovery of this critically endangered marine species. Also, some or all of the ``special management considerations or protections'' identified in the proposed designation as being potentially required to protect and promote the recovery of the northern right whale population using the Stellwagen Bank environment (i.e., vessel traffic, fishing, pollution, mining and gas exploration) are also addressed by the SBNMS management plan. With the exception of fishing, these activities are currently either regulated directly, or are listed as subject to sanctuary regulation.

Furthermore, the Marine Protection, Research and Sanctuaries Act (title III), as amended in 1992, established the requirement for consultation between the Secretary of Commerce (NOAA) and any Federal agency proposing to undertake an activity in the vicinity of a National Marine Sanctuary that may result in adverse impacts on sanctuary resources or qualities, including private activities authorized by licenses, leases or permits. Such consultation must occur prior to initiation of the proposed activity. From the perspective of administrative structure, therefore, there are opportunities for both NMFS and NMSP to coordinate their programmatic objectives.

Response: NMFS does not believe that extending the boundary of the SEUS critical habitat seaward to include the GRNMS is necessary (see Response to Comment 10). However, NMFS does agree that the Grays Reef program could provide additional monitoring of these whales, substantial support to the education and outreach objectives listed in the Northern Right Whale Recovery Plan and additional opportunities for coordinated efforts to enhance the potential for recovery of this critically endangered marine species.

Comment 13: A commenter recommended that NMFS designate Delaware Bay as critical habitat for the northern right whale, stating that Delaware Bay is habitat that is representative of the historic geographical and ecological distribution of the species.

Response: The criteria specified under 50 CFR 424.12 to be considered in designating critical habitat, and described in the preamble to the proposed designation, must consider the requirements of the species, including habitats that are representative of the historic geographical and ecological distributions of the species. Section 3(5)(A)(ii) of the ESA states that areas outside the current geographical range of a species can be designated if the Secretary determines that such areas are essential for the conservation of the species. The regulations to the ESA interpret this provision to mean that the Secretary shall designate as critical habitat areas outside the geographic area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(c)). Even where the area

is presently occupied by the species, section 3(5)(c) states that, with certain exceptions determined by the Secretary, ``critical habitat shall not include the entire geographic area which can be occupied by the * * * species.''

Although known to have been used by right whales, it is not completely understood to what extent Delaware Bay was used, or whether this area would ever have been considered critical habitat. It is known, however, that the area is now bypassed by northern right whales during their annual movements. NMFS believes that the current high-use areas are identified in this rule, but recognizes that the areas designated represent the minimal space required by right whales to ensure population growth. Designating Delaware Bay as critical habitat would not enhance the likelihood of recovery for this species. If evidence to the contrary becomes available, critical habitat boundaries can be modified.

Comment 14: Several commenters did not oppose the designation of the critical habitat designation for the northern right whale, but were concerned with the ``general'' language of the proposed designation and felt there was no real need for it. Rather, they felt that a public awareness program for shipping interests is sufficient. They further expressed concern that the language of the preamble to the proposed designation stating that ``habitats will be given special consideration in section 7 consultations'' would become a vehicle to attack offshore dredge disposal and port expansion. The commenters requested that NMFS reconsider the need for the proposed designation as it applies to the southern coastal area, given that there is already an active task force working to prevent collisions between vessels and the northern right whale and that the other protections of the ESA still apply.

Finally, one of the commenters wanted the channel, fairways to sea lanes, disposal sites, access routes to disposal sites and nearshore berm areas in the SEUS to be excluded from the critical habitat designation. The commenter noted that these areas can be excluded if the overall benefits of exclusion outweigh the benefits of designation, unless the exclusion results in the extinction of the species.

Response: Federal agencies active within the range of the northern right whales are already required to consult with NMFS regarding projects and activities that may affect the species pursuant to section 7 of the ESA. Federal agencies are required to evaluate their activities with respect to northern right whales and to consult with NMFS prior to engaging in any action that may affect the critical habitat to ensure that their actions are not likely to result in its destruction or adverse modification. Regarding the SEUS critical habitat specifically, these actions are being reviewed by the Southeast Implementation Team, through section 7 consultations and agreements already in place, and through the expanded efforts of the Implementation Team to reach the private and public sectors.

Finally, frequent travel by commercial vessels in these areas represents a considerable threat to northern right whales. Therefore, NMFS does not agree that corridors frequently traveled by vessels within the designated critical habitat should be excluded.

Comment 15: One federal agency was concerned that the proposed designation was neither appropriate nor necessary to preserve the species. The commenter felt that the current proposal merely designates areas of highest concentration of the whales and lists their characteristics, rather than considers the physical or biological features that are essential to the conservation of the species. To warrant critical habitat designation, the commenter felt that a better understanding of the species' biological and physical requirements is needed.

Response: NMFS agrees that critical habitat designation must include areas meaningful to the specie's conservation. Consequently, NMFS is not designating the northern right whale's entire range, which was suggested by several commenters, but is focusing attention on particular areas that have essential features and that may be in need of special management consistent with the ESA and implementing regulations. The section of this preamble entitled ``Essential Habitat of the Northern Right Whale'' has been expanded from the proposed rule to address those biological and physical features and to identify those principal constituent elements, such as feeding sites, breeding grounds and calving areas within the designated areas, that are considered essential to the northern right whale. The section in the proposed designation entitled ``Need for Special Management Consideration'' summarizes the justification for the designation of these three special areas.

NMFS has concluded, based on the best available scientific evidence and the biological and ecological needs of the species, that the areas in coastal and offshore waters that are being designated as critical habitat for northern right whales contain the appropriate environmental and biological characteristics required by the species to recover, and may warrant consideration of special management measures.

NMFS has also concluded that the designation of waters within the SEUS is warranted, given the geographic concentration of northern right whales during the winter/calving period, the extreme endangered status of this species, the importance of the area to the reproductive potential (recovery) of the species, the possible impacts of commercial activities on right whales that may require monitoring and the fact that this area may be in need of special management measures.

The potential for special management considerations does not necessarily mandate restriction or elimination of activities. Close monitoring of activities and additional research also constitute special management considerations. The existing information, discussed in the preamble to this final designation, supports this designation of critical habitat.

Comment 16: Another Federal agency commenter, citing the EA prepared by NMFS, stated that the direct impact of the designation affects Federal agencies and only duplicates that protection provided under the section 7 jeopardy provision. According to the commenter, the primary benefit cited for the proposed designation is increased awareness. The commenter believed that previous consultations with Federal agencies and meetings with the public have heightened awareness, and therefore, that more regulations are unnecessary. In summary, the commenter opposed the designation. However, the commenter wanted to facilitate more progressive conservation of the species and to cooperate in the development of interagency management plans to reduce impacts to the whales in high density areas. The commenter believed such measures will allow NMFS and other Federal agencies more flexibility in advancing recovery of the northern right whale.

Response: NMFS restates that, while designating critical habitat helps focus the attention of Federal agencies on the importance of a designated area for an endangered species, state and private agencies may also give special consideration toward conservation and management actions in these areas. A designation of critical habitat provides some incremental protection to northern right whales in those cases where the action may not result in a direct impact to individuals of a listed species (e.g., an action occurring within the critical area when a migratory species is not present, or when an activity is conducted outside the designated area), but may affect the critical habitat.

Finally, NMFS agrees with the commenter that a more progressive conservation program to protect this species is necessary, and that the

development of interagency management plans to reduce impacts to the whales in high density areas is the best approach. Therefore, NMFS will continue to work through the Southeast Implementation Team and through ongoing section 7 consultations to advance recovery efforts for northern right whales in these waters. NMFS appreciates the efforts that have already been made toward protecting these animals, and believes continued research and management discussions will result in a cost-effective, flexible program that will enhance the recovery of the northern right whale.

Comment 17: One commenter supported reasonable activities to protect the right whale at an acceptable cost and understood that the designation will not, in itself, impose additional regulations affecting activities within the habitat area. The commenter shared the concerns of other port operators that designation of critical habitat may lead to adoption of rules regulating the speed and routes of commercial vessels which may cause vessels to leave these ports at great economic cost to the port.

The commenter was concerned that all proposed special management measures that could impose increased costs should be adequately evaluated to assure that resulting benefits justify those costs, and that measures are implemented in the most cost-effective manner. The commenter suggested that effective alternative protection methods with significantly less cost may exist, although it did not provide specific recommendations.

This commenter has joined together with others to institute an education and information dissemination plan designed to protect the right whale. The commenter believed that this cooperative effort is the method most likely to be effective in protecting the right whale at reasonable cost in northern Florida and southern Georgia coastal waters.

Response: NMFS does not expect any additional restrictions on use of the areas as a result of this designation. Therefore, direct economic impacts associated with this designation are expected to be minimal.

NMFS agrees that there may be alternative protection methods. The possibility of such alternatives, however, does not eliminate the need to designate critical habitat. These should be brought to the attention of the Southeast Implementation Team, which can review and evaluate them.

Comment 18: One commenter was concerned about the potential effects of this designation on beach nourishment projects done in conjunction with the ACOE. Currently the commenter and the ACOE are studying the feasibility of beach nourishment at several eroding areas of the Atlantic shoreline. The commenter continued that the potential window for beach nourishment projects has already been limited by the presence of essential nesting habitat for endangered and threatened species of sea turtle. The nesting seasons runs from May 1 through October 1 of each year, limiting the timeframe for nourishment projects to the winter months.

Another Federal agency stated that any hopper dredge restrictions implemented to avoid the December through March time period of right whale calving and presence in the area would be burdensome. The commenter encouraged working out a timeframe that would allow use of a hopper dredge and take into account the winter right whale calving season and the summer period of high abundance for Kemp's ridley turtle (*Lepidochelys kempii*) and manatee (*Trichechus manatus*) in the Kings Bay area.

Response: NMFS realizes that the present dredging period was scheduled to accommodate the presence of several species of sea turtles in these waters, and also recognizes the seasonal limits for beach

nourishment projects. The present seasonal restriction on dredging is an essential management measure, given the increased densities of sea turtles in coastal waters during the warmer months.

The designation of critical habitat for right whales will not affect the scheduling of this activity. NMFS does not intend to alter the present schedule through this designation, but rather will continue to require the present level of monitoring of dredging activities during winter months to reduce impacts to northern right whales. Over the years, there have been several very near misses of right whales with dredges that were avoided due, at least in part, to observer coverage on the dredges.

Comment 19: Several organizations and individuals had comments regarding commercial fishing restrictions. One commenter recommended seasonal restrictions on set-gillnet fisheries and multiple trap American lobster, *Homarus americanus*, fisheries within known right whale habitat, and felt that fines and enforcement procedures for individuals violating this and other restrictions should be mandated.

Another commenter recommended that NMFS expand the rule to include conservation measures to reduce the likelihood of right whales being struck by boats or becoming entangled in fishing gear. Specifically, the commenter recommended that NMFS prohibit the use of unattended drift and sink gillnets in all three areas being designated as critical habitat during the seasons that right whales are likely to occur in the area.

Another commenter suggested that unattended use of gillnets should be prohibited from December 1 through March 31 (the time that northern right whales are in the area), but that commercial fishing need not be restricted on the winter grounds.

NMFS also received several comments from individuals and organizations recommending against designating critical habitat because they believed it would lead to further restrictions of fishing activities. One such commenter asserted that the designation may eventually result in the halting of recreational fishing outside Sebastian Inlet, FL, and for that reason was opposed to designating critical habitat. Another commenter felt that the designation of critical habitat would increase regulation of commercial fishing and for that reason opposed the designation.

Another commenter stated that commercial fishermen throughout the SEUS support efforts to protect the northern right whale through participating in whale sighting programs, and by radioing positions of whales to other vessels to avoid collisions. Thus, the commenter felt declaring this area as critical habitat was not necessary to avoid collisions, and may unnecessarily affect fishermen as well as other commercial activities.

Response: As stated in the proposed critical habitat designation, the only direct impact of a critical habitat designation is through the provisions of section 7 of the ESA, which applies only to those actions authorized, funded or carried out by Federal agencies. This final critical habitat designation contains no land use or fishing regulations, and will not directly affect private activities. Even where there is Federal involvement, NMFS anticipates that this final critical habitat designation, by itself, will not restrict private activities in a manner or to an extent that these activities are not already affected as a result of the listing of this species as endangered. If, in the future, NMFS determines that restrictions on human activities are necessary to protect northern right whales or their habitat, such action would be preceded by an opportunity for public review and comment.

Comment 20: One commenter stated that pollutant discharges in CCB may represent a continuous source of degradation to essential habitats.

Sewage discharges, dredging activities, dredge spoil disposal and non-point sources all contribute contaminants into this relatively shallow and extraordinarily productive environment. The commenter further stated that the Massachusetts Water Resources Authority (MWRA) is in the process of combining, upgrading and relocating its outfalls approximately 15km out into Massachusetts Bay, or roughly 40km to the north of the critical habitat boundary. The commenter felt that research should be continued and broadened to address all aspects of the species' biology, behavior and habitat requirements, as well as the specific sources of pollution that threaten to diminish the quality of the habitat for northern right whales.

The commenter stated that in CCB there is a need to establish a water quality monitoring program that focuses on endangered species and incorporates sampling of critical parameters at the appropriate spatial and temporal scales.

Response: As previously stated, NMFS is coordinating the development of a Right Whale Recovery Plan Implementation Team that will address the possible impacts to right and humpback whales from activities in Massachusetts Bay that may affect CCB (see Comment 5).

Comment 21: One Federal agency outlined those protective measures that have been developed over the years through ESA section 7 consultations with NMFS and commended the efforts of NMFS, Southeast Regional Office, in initiating discussions with EPA, Region IV, to propose moving the Kings Bay ocean dredged material disposal site closer to the navigation channel. A closer disposal site would reduce the distance traveled by hopper dredges, thereby reducing the potential for collisions with right whales.

The commenter did not anticipate additional restrictions on these activities because of the critical habitat designation.

Response: NMFS will continue to work with all Federal agencies through the section 7 consultation process on all protected species issues to ensure the continued recovery and protection of endangered and threatened species.

Classification

It has been determined that this rule is not significant for purposes of E.O. 12866.

NOAA Administrative Order 216-6 states that critical habitat designations under the ESA generally are categorically excluded from the requirements to prepare on EA or Environmental Impact Statement. However, in order to more clearly evaluate the minimal environmental and economic impacts of critical habitat designation versus the alternative of a no-critical habitat designation, NMFS has prepared an EA. Copies of the EA are available on request (see ADDRESSES).

List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: May 27, 1994.

Charles Karnella,
Acting Program Management Officer, National Marine Fisheries Service.

For the reasons set forth in the preamble, 50 CFR part 226 is amended as follows:

PART 226--DESIGNATED CRITICAL HABITAT

1. The authority citation for part 226 continues to read as

follows:

Authority: 16 U.S.C. 1533.

2. New Sec. 226.13 is added to subpart B to read as follows:

Sec. 226.13 North Atlantic Ocean.

Northern Right Whale (*Eubalaena glacialis*)

(a) Great South Channel. The area bounded by 41 deg.40' N/69 deg.45' W; 41 deg.00' N/69 deg.05' W; 41 deg.38' N/68 deg.13' W; and 42 deg.10' N/68 deg.31' W (Figure 6 to part 226).

(b) Cape Cod Bay, Massachusetts. The area bounded by 42 deg.04.8' N/70 deg.10' W; 42 deg.12' N/70 deg.15' W; 42 deg.12' N/70 deg.30' W; 41 deg.46.8' N/70 deg.30' W and on the south and east by the interior shore line of Cape Cod, Massachusetts (Figure 7 to part 226).

(c) Southeastern United States. The coastal waters between 31 deg.15' N and 30 deg.15' N from the coast out 15 nautical miles; and the coastal waters between 30 deg.15' N and 28 deg.00' N from the coast out 5 nautical miles (Figure 8 to part 226).

3. Figures 6 through 8 are added to part 226 to read as follows:

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